

Crysler, Ruby

From: Krause, Michael <michael.krause@aecom.com>
Sent: Monday, June 05, 2017 3:31 PM
To: Wight, Brian; Chrysler, Ruby; Jacqueline.Grunau@ks.gov; Mark D. Wichman (mark.d.wichman@usace.army.mil); KNIGHT, COLE D GS-11 USAF AMC 22 CES/CEAN (cole.knight@us.af.mil); michael.d@ageiss-inc.com; 'Jose.hurtado@us.af.mil'; GUTIERREZ, NEYDA V CTR USAF AFMC AFCEC/CZR; Mowan, Ryan; Gangelhoff, Dustin
Cc: Jacqueline Grunau
Subject: RE: McConnell AFB PBR: Project Status Meeting
Attachments: 06June17_AGE_attachments.pdf
Categories: Record Saved - Shared

The meeting agenda with attachments is attached for tomorrow's discussion. Hard copies will be provided for those in attendance at EPA Region 7.

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-----Original Appointment-----

From: Wight, Brian
Sent: Friday, June 02, 2017 8:31 PM
To: Wight, Brian; crysler.ruby@epa.gov; Jacqueline.Grunau@ks.gov; Mark D. Wichman (mark.d.wichman@usace.army.mil); KNIGHT, COLE D GS-11 USAF AMC 22 CES/CEAN (cole.knight@us.af.mil); michael.d@ageiss-inc.com; 'Jose.hurtado@us.af.mil'; GUTIERREZ, NEYDA V CTR USAF AFMC AFCEC/CZR; Mowan, Ryan; Gangelhoff, Dustin; Krause, Michael
Cc: Jacqueline Grunau
Subject: McConnell AFB PBR: Project Status Meeting
When: Tuesday, June 06, 2017 10:00 AM-12:00 PM (UTC-06:00) Central Time (US & Canada).
Where: EPA Region VII

All,

Meeting to discuss the status of the McConnell AFB PBR project. Call in information and WebEx information is below. Please confirm your availability to participate in the meeting by responding to this invitation

Brian

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Project Status Regulator Call Agenda

McConnell Air Force Base Multi Site Performance Based Remediation (PBR)

Date/Time: 06 June 2017 – 1000 - 1200 hrs.

Location: EPA Region VII

Discussion Items

- Institutional Control Implementation Plan Update
- Draft Groundwater Monitoring Plan
- Next Sites Ready for Remedy Proposal TM Discussion
- TPH Sites and Potential Priorities
- Construction Completion Report Discussion
- Final OW625 RFI Report Comments
- DP013 Soil Disposition Update
- FT006 Excavation Update
- SS032 Number of Samples and Sample Locations
- Other

Action Items

- SS035 CMC (EPA)
- OW040 path forward (AFCEC/USACE)
- SS004: SWMU 201 RFA Addendum Report (URS)
- SS031: Spill Site 31 (SWMU 174) Site Characterization Report (URS)
- SS003: Install and sample a new monitoring well in the area that could not be injected (URS)
- ZZ052: Determine if new hangar covers the site or not. Resample groundwater and also soil if the site is accessible (URS)
- DP013: Prepare excavation work plan (URS)
- SS548: Prepare Additional Investigation Work Plan Addendum for additional direct push sampling (URS)
- OW971: Submit site closure report recommending NFA (URS)
- TU601: Prepare an addendum to the RFI Report documenting the field work completed and sample results and update the baseline risk assessment (URS)
- SS032: Determine the number of sample points necessary to prove that metals in groundwater are due to turbidity (EPA)

Attachments (under separate cover)

- Next Sites Ready for Remedy Proposal TM Discussion
- TPH Sites and Potential Priorities
- Final OW625 RFI Report Comments

Institutional Control Implementation Plan Update

APPENDIX A

List of Sites with Institutional Controls

In accordance with the Final Hazardous and Solid Waste Amendment Part II Permit for McConnell Air Force Base (United States Environmental Protection Agency Resource Conservation and Recovery Act ID No. KS1571924140, Condition II.17 Institutional Controls (ICs)), to protect human health and the environment, ICs will be implemented as a component of all remedies addressing contamination remaining on a site at concentrations that do not allow for unlimited land use and unrestricted exposure to site contamination.

Site ID (and aliases)	Site Description	Site Contaminants	Site Location and Boundaries	Site Status	ICs Required by DD (Yes/No)
B-314	Building 314 (B-314) is located on the southwest corner of the intersection of Leavenworth and Wichita Streets on MAFB. The site is the MAFB general store and gas station. Three USTs are located near Building 314. Access to the site is not restricted and site identification placards are present.	GW: BTEX, naphthalene, TPH	Figures B-1 and B-2.	A groundwater pump and treat system is operating as a remedy.	No
DP013 (DP-13)	DP013 (DP-13) is a suspected low-level radiation site approximately 1/4 acre in size located on the east-southeastern boundary of LF010. The site was used for the disposal of electronic tubes and other low-level radioactive material between 1965 and 1968. Access to the site is not restricted and site identification placards are present.	Identification of site contaminants is pending ongoing/current subsurface investigation.	Figures B-1 and B-7	The site is currently undergoing subsurface investigation for delineating the locations of potential buried waste drums.	No
FT004 (FT-04; SWMU 11 6)	Fire Training Area 4 (FT004) is located in the Weapons Storage Area near the center of the Base. The 200 by 400-foot area was used for less than six months as a temporary fire training activities area in 1972. Access to the site is not restricted and site identification placards are present.	GW: Arsenic, SVOCs SO: Arsenic	Figures B-1 and B-3.	Site Closure Investigation pending.	Yes Statement of Basis January 2013

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FT006 (FT-06; MFT2) SWMU 107, 117, and 160 are associated with this site.	Fire Training Area 6 (FT006) is a 15-acre mowed grass-covered field located in the southeast portion of the base near the property boundary. The site was used as a fire training area from 1958 to 1962. Releases presumably occurred in conjunction with the storage and burning of waste fuels and solvents. Access to the site is not restricted and site identification placards are present.	GW: TCE, cis-1,2-DCE, toluene SO: PCE, TCE, cis-1,2-DCE, and other non-chlorinated VOCs	Figures B-1 and B-4.	A groundwater extraction and treatment system was installed in 1996. Accelerated Remediation Technology, Inc.® wells were installed in 2009. Both systems have been shut off and partially abandoned. Injection of Xero Valent Iron (ZVI) has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
FT007 (FT-07; MFT3)	Fire Training Area 3, (formerly MFT3 and now FT007), is located southwest of former Building 1318 within the southeast quadrant of MAFB. The site was used as a fire training facility from 1963 to 1971. Releases presumably occurred in conjunction with the storage and burning of waste fuels and solvents. Access to the site is not restricted and site identification placards are present.	GW: TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride	Figures B-1 and B-5.	A groundwater treatment system utilizing extraction and pumping through a bio-wall was installed in 1996 and has since been shut off and partially abandoned. Injection of ZVI has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
ID636 (OT-C610; SWMU 196)	ID636 (SWMU 196) is the site of a former silver recovery unit associated with the photographic laboratory in Building 1220. Wastewater from the unit was initially discharged to the City of Wichita sanitary sewer system by permit and later was containerized for disposal by the DRMO. Contaminants were discovered during a subsurface investigation in 2011. Releases presumably occurred in conjunction with the silver recovery process. Access to the site is not restricted and site identification placards are present.	GW: chloroform, TCE, manganese, vinyl chloride SO: metals	Figures B-1 and B-6.	Injection of ZVI has been implemented as an interim measure. Groundwater monitoring is ongoing.	No

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Site ID (and aliases)	Site Description	Site Contaminants	Site Location and Boundaries	Site Status	ICs Required by DD (Yes/No)
ID638 (OT-C535; SWMU 200)	ID638 (SWMU 200) is the former site of Building 1345, a golf equipment maintenance facility. The septic system was historically connected to former Building 1345. The septic system consists of a 500-gallon septic tank and associated leach field. Contaminants were discovered near a former UST in the same general location during a subsurface assessment completed in 2012. Releases presumably occurred in conjunction with storage of diesel fuel in the UST. Currently, access to the site is restricted and site identification placards are present.	GW: naphthalene, TCE, multiple SVOCs, pentachlorophe nol (pesticide), mid-range hydrocarbons, arsenic, manganese SO: multiple VOCs, PAHs, metals	Figures B-1 and B-4.	Draft RFI report pending. Plans to address the only COC above screening levels (TPH-MRH in groundwater) have not yet been established	No
LF010 (LF-10; Landfill No. 1; Golf Course Landfill; MLF1)	LF010 is an approximately 40-acre site and former landfill used for general and miscellaneous wastes from 1953 until 1960. Approximately 355,000 cubic yards of waste was burned in trenches of varying length and about 10 to 15 feet deep. Waste disposed of at the landfill primarily consisted of office/general materials and small amounts of petroleum, oil, lubricants, paint, thinners, fuel filters, and bulk fuel sludge. The site was converted to a golf course, but is currently used for general fitness and recreation activities. Access to the site is not restricted and site identification placards are present.	None identified in exceedance of screening criteria	Figures B-1 and B-7.	Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	No

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LF011 (LF-11; MLF2)	Landfill No. 11 (LF011) is a grass-covered field located in the southeast portion of MAFB, west of the small arms range and south of the explosive ordnance disposal area. The site occupies approximately 32 acres and was operated as a trench, fill and burn landfill from 1960 to 1970. Access to the site is restricted and site identification placards are present.	GW: TCE, vinyl chloride, cis-1,2-DCE SO: TCE, vinyl chloride, cis-1,2-DCE, other non-chlorinated VOCs, and metals	Figures B-1 and B-8.	A groundwater capture and treatment system was installed in 1996. Accelerated Remediation Technology, Inc.® wells were installed in 2009. Both systems have been shut off and partially abandoned. Injection of ZVI has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
LF033 (Hardfill Area 3; LF-33; SWMU 106)	Landfill 33 (SWMU 106) is a 4.1-acre undeveloped grass-covered field located near the southeastern corner of MAFB. McConnell Creek forms the eastern site boundary. LF-33 was used from 1958 to 1965 as a construction landfill for debris. Access to the site is restricted and site identification placards are present.	GW: PCE, TCE, manganese, arsenic SO: Naphthalene, PCE, TCE, antimony Site monitoring wells were sampled in 2015 and all VOCs were below screening criteria. Arsenic and manganese were detected above screening criteria.	Figures B-1 and B-9.	Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	No

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LF034(LF-34; SWMU 163)	<p>Landfill 34 (LF034) is a 3.5-acre grass-covered field located near the center of MAFB in an area that incorporates part of MAFB athletic fields (track and soccer). In 1992 during the construction of Building 1250, a pocket of trash including pottery shards and eating utensils was found. The landfill has been described in previous reports as a municipal-type waste disposal site.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	<p>GW: TPH, vinyl chloride</p> <p>SO: Non-chlorinated and chlorinated VOCs, SVOCs, TPH, metals</p>	Figures B-1 and B-10.	<p>An oxygen infusion system installed under the soccer field is in place as an interim measure.</p> <p>Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.</p>	No
OT547 (Building 692)	<p>OT547 (Building 692), the Civil Engineering Pavement and Grounds Shop, is located in the northeast portion of MAFB along the east and west sides of Kansas Street. Four oil-water separators (OWSs) (SWMU numbers 122, 145, 151, and 202), a former wash-out pit, and one mud pit are associated with Building 692. The OWSs were used to collect spilled fluids during maintenance activities (small engine repair, tool cleaning).</p> <p>Access to the site is not restricted and site identification placards are present.</p>	<p>GW: TCE, PCE, TPH, metals</p> <p>SO: Metals</p>	Figures B-1 and B-11.	<p>Injection of ZVI has been implemented as an interim measure for chlorinated contaminants and oxidant injections have been implemented for TPH contamination. Groundwater monitoring is ongoing.</p>	No

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OW026 (OW-C533; OWS #K4; SWMU 123)	OW026 (SWMU 123) is the site of former OWS #4 (OWS #K4), a 550-gallon Highland Tank located approximately 60 feet southwest of Building 710. The OWS likely received liquid waste containing petroleum-based fuels, lubricants, and degreasing solvents produced in Building 710, an active vehicle maintenance shop. The OWS effluent was discharged into the sanitary sewer system. Access to the site is not restricted and site identification placards are present.	GW: multiple VOCs, PAHs, TPH SO: benzene, benzo(a)anthracene, naphthalene, benzo(a)pyrene, cis-1,2-DCE, ethylbenzene	Figures B-1 and B-11.	OWS and 37 tons of contaminated soil removed in 2015. Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
OW037 (OW-C551; OW-C518; SWMU 126)	Former OWS #7 was a 550-gallon Highland Tank located approximately 70 feet northwest of former POL Tank #16 just south of Building 970. The effluent discharged to a sanitary sewer. POL Tank #16 was removed between 2003 and 2005. Access to the site is not restricted and site identification placards are present.	GW: cis-1,2-DCE, 1,4-dichlorobenzene, 1-methylnaphthalene, naphthalene, TCE, mid-range hydrocarbons SO: 1,4-dichlorobenzene, 2-hexanone, benzo(a)anthracene, benzo(a)pyrene, naphthalene	Figures B-1 and B-16.	OWS and 27 tons of soil were removed in 2015. A plan to address the only COC exceeding screening criteria (TPH-MRH in groundwater) has not been established.	No
OW040 (OW-C513; SWMU 186)	OW040 (SWMU 186) is the former site of OWS #K8, a 1,000-gallon, single-walled, steel Highland Tank with a 300-gallon oil capacity, located 100 feet west of Building 50. The effluent discharged to the sanitary sewer. Access to the site is not restricted and site identification placards are present.	GW: 1,4-dichlorobenzene, bromodichloromethane, chloroform, 1,2,4-trimethylbenzene, naphthalene, TPH SO: benzene, ethylbenzene, naphthalene	Figures B-1 and B-12.	OWS and 40 cubic yards of soil were removed in 2015. A plan to address the only COC exceeding screening criteria (TPH-MRH in groundwater) has not been established.	No

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OW041 (OW-C516; SWMU 179)	OW041 (SWMU 179) is the former site of OWS #K1, a 550-gallon, single-walled, steel Highland Tank with a 165-gallon oil capacity located southwest of Building 9. The OWS effluent discharged to the sanitary sewer. An unknown quantity of dilute contaminants was potentially released over time, presumably from the OWS, which received discharge from Building 9. Access to the site is not restricted and site identification placards are present. SWMU 172 is also associated with this site.	GW: multiple VOCs, benzo(a)anthracene, naphthalene, TPH SO: multiple VOCs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene	Figures B-1 and B-13.	The OWS and 1,170 tons of contaminated soil were removed in 2015. Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
OW545 (Former Building 980; OW-C545; SWMU 128)	OW545 (Former Building 980) is an asphalt parking lot located west of the intersection of Independence Drive and Atchison Street. The site is adjacent to the POL yard and the bulk fuel storage area (Sites SS001 and Building 971), and is the former site of OWS #9, a 1,000-gallon double-walled Highland Tank located approximately 15 feet northwest of former Building 980. Access to the site is restricted.	GW: TCE, vinyl chloride, benzene, TPH	Figures B-1 and B-14.	RFI completed prior to military construction. Path forward is pending four quarterly rounds of groundwater sampling from newly installed monitoring wells following military construction activities.	No
OW633 (Building 41; OW-C549; SWMU 176; SWMU 184)	OW633 is located on the western side of the main runway in the area operated by the KANG. OW633 includes the former floor drains associated with an aircraft wash rack in Building 41 and former OWS #K6 located west of Building 41. Access to the site is not restricted and site identification placards are present.	GW: TCE, cis-1,2-DCE, vinyl chloride, TPH SO: 1,2-Dichloropropane	Figures B-1 and B-15.	A Draft RFI has been completed. Injection of ZVI has been implemented as an interim measure for chlorinated contaminants and oxidant injections have been implemented for TPH contamination. Groundwater monitoring is ongoing.	No

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OW971 (Building 12; OW-C558)	<p>Building 12 former Hush House OWS was located on the Kansas Air National Guard (KANG) side of the Base near the end of Falcon Drive.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	<p>GW: TPH</p> <p>SO: TPH</p>	Figures B-1 and B-13.	<p>OWS removed in December 2008.</p> <p>Site Closure Investigation to monitor site groundwater is ongoing with the intention to allow revision of the SOB to NFA with UU/UE</p>	<p>Yes</p> <p>SOB December 2013 w/ ICs</p>
SS001 (MSS1; SS-01)	<p>Spill Site 01 (SS001) is located in the bulk fuel storage area in the northeast portion of MAFB. Aviation fuel has been stored at this location since the 1950s and two large spills were reported in the past. Site buildings include an administrative office, pump house, and small maintenance equipment storage building. The site is placarded and access is restricted.</p> <p>SWMU numbers 125 and 127 are located within the IC boundary of SS001.</p> <p>Access to the site is restricted and site identification placards are present.</p>	<p>GW: TCE, cis-1,2-DCE, vinyl chloride, benzene</p> <p>SO: BTEX, TCE, cis-1,2-DCE, vinyl chloride, trimethylbenzene</p>	Figures B-1 and B-16.	<p>Accelerated Remediation Technology, Inc.® wells were installed in 2009. The system has been shut off and partially abandoned.</p> <p>Injection of ZVI has been implemented as an interim measure for chlorinated contaminants and oxidant injections have been implemented for benzene contamination. Groundwater monitoring is ongoing.</p>	No

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SS003 (MSS3; SS-03)	<p>Spill Site 03 (SS003) is located in the north central portion of MAFB within the Flight Maintenance Compound. Fuel pipelines are located in the subsurface. Solvent storage tanks and piping have been located in the area. Pipeline leaks were reported in the past. A groundwater pump and treat system remains in place, but is not currently operating. Access to the site is currently restricted.</p> <p>Twelve (12) individual SWMU sites are located within the IC boundary of SS003.</p> <p>Access to the site is partially restricted and site identification placards are present.</p>	<p>GW: PCE, TCE, cis-1,2-DCE, vinyl chloride, TPH</p> <p>SO: TCE, vinyl chloride</p>	Figures B-1 and B-17.	An oxygen infusion system installed near Building 1104 is in place as an interim measure. Injection of ZVI has been implemented as an interim measure. Groundwater monitoring is ongoing.	No
SS014 (MSS5; SS-14)	<p>Spill Site 14 (SS014) is located in the northwest portion of MAFB near the Kansas Air National Guard and the flight line area. Prior to 1988, the site was a maintenance and auto repair facility (Building 16 Auto Hobby Shop) for privately-owned vehicles. An underground oil tank located north of the hobby shop was removed in 1988 when the building was demolished.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	<p>GW: TCE, cis-1,2-DCE, vinyl chloride</p>	Figures B-1 and B-18.	Injection of ZVI has been implemented as an interim measure. Groundwater monitoring is ongoing.	No

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SS032 (Soil Farm 1; SS-32; SWMU 109)	Spill Site 32 (SS032) is a 13-acre maintained grass-covered field located southeast of the south end of the east runway. In the 1980s, asphalt and concrete batch plants were present. In the 1990s the site was used as a land farm for petroleum-impacted soil (gasoline, diesel, jet propulsion fuel grades 4 and 8) excavated from MAFB tank sites. Access to the site is restricted.	GW: Metals SO: Naphthalene, antimony	Figures B-1 and B-19.	Site Closure Investigation to allow removal of IC's and NFA with UU/UE is pending.	Yes Statement of Basis w/ ICs August 2011
SS039 (Building 12 Spill Site; SS-39)	SS039 (Building 12 Spill Site) is the site of a former pad-mounted transformer located south of former Building 12. The transformer was labeled with a manufacture date of September 2005, and was removed from the site in 2014. Up to 120 gallons of Nytro Leo I PCB-free transformer oil were reportedly released from the pad-mounted transformer on August 18, 2011. Access to the site is not restricted and site identification placards are present.	GW: multiple VOCs, PAHs, TPH SO: multiple VOCs, naphthalene, TPH	Figures B-1 and B-13.	Final RFA Report pending. Plans for further investigation of TPH in groundwater have not been established.	No
SS044 (OT-C622)	SS044 (Building 49 Spill Site) is a spill site on the western side of the runway west of Building 49. The site is located southeast of site OW633 and north-northwest of site SS014, both of which are sites primarily contaminated with TCE. Access to the site is not restricted and site identification placards are present.	GW: TCE, VC, TPH	Figures B-1 and B-15.	A Final RFI has been completed. Oxidant injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	No

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SS544 (SWMU 207)	At SS544 (SWMU 207), a carbon tetrachloride/TCE groundwater plume is present in the west-central portion of MAFB near the west end of taxiway "Charlie." SS544 includes areas on both MAFB and property owned by the Boeing Company. Access to the site is restricted and site identification placards are present.	GW: TCE, 1,1-DCE, carbon tetrachloride	Figures B-1 and B-20.	RFI completed and CMS planned, followed by CMI.	No
SS548 (Building 971)	SS548 (Building 971) is located at the northern edge of the bulk fuel storage area in the northeast portion of MAFB. Diesel fuel is stored at this location in a large outdoor aboveground storage tank and a small indoor day tank. A spill was reported in 2008. Fuel leaked to an adjacent drainage ditch. Access to the site is restricted and site identification placards are present.	GW: TPH, benzene, naphthalene SO: TPH	Figures B-1 and B-21.	Soil removal action in 2009 – 500 cubic yards of soil removed. RFI completed. Additional investigation in progress. Interim measures are planned.	No
ST017 (MSS2; SS002; ST-17)	Spill Site 2 (ST017) is located at the corner of Kansas and Topeka Streets in the northeast portion of MAFB. Building 430 is currently used as an office building by the explosive ordnance disposal shop. A former gasoline station was adjacent to the site and underground storage tanks were located near the building. Access to the site is not restricted and site identification placards are present.	GW: MTBE, benzene, TPH, naphthalene SO: Benzene, TPH, naphthalene	Figures B-1 and B-22.	Oxidant Injection has been implemented as an interim measure. Groundwater monitoring is ongoing.	No

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MMRP TS355 (SWMU 164)	<p>The 1.5-acre Former Weapons Firing Range (Military Munitions Response Program [MMRP] TS355), also identified as SWMU 164, is located adjacent to and north of the existing 25 Meter Firing Range. This site consists of what was formerly the northern half of the existing small arms firing range before it was shortened from 50 to 25 yards. The original eastern, western, and northern firing range berms were sampled, stabilized, removed and landfilled. Small arms ammunition casings were discovered.</p> <p>Access to the site is not restricted. However, MMRP TS355 is currently inactive, and is classified as "closed range property."</p>	SO: Lead	Figures B-1 and B-23.	<p>Comprehensive Site Evaluation Phase II is complete.</p> <p>Removal action recommended for lead-impacted soil.</p>	No
TU036 (TU-36)	<p>TU036 is currently an open grassy lot located on Jayhawk Drive between SS031 and SS035. During installation of a new fiber optic cable, an underground storage tank was discovered.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	<p>GW: 1,2-DCA, TPH</p> <p>SO: TPH</p>	Figures B-1 and B-24.	<p>UST removed in 2009.</p> <p>Oxidant Injection has been implemented as an interim measure.</p> <p>Groundwater monitoring is ongoing.</p>	No

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ZZ047 (Hardfill Area 1; SWMU 104)	<p>ZZ047 (SWMU 104) is an approximately 9-acre hardfill used for the disposal of concrete rubble, asphalt pavement, brush, fill dirt, and other construction/demolition debris from 1955 to the 1970s. The depth to which the debris was buried is unknown.</p> <p>Access to the site is not restricted and site identification placards are present.</p> <p>SWMU 110 (OW578), the former site of a petroleum-impacted soil land farm, is also located within the SWMU 104 boundaries.</p>	SO: arsenic	Figures B-1 and B-25.	Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	No
ZZ048 (Hardfill Area 2; SWMU 105)	<p>ZZ048 (SWMU 105) is an approximately 11-acre hardfill used for the disposal of concrete rubble, asphalt pavement, brush, fill dirt, and other construction/demolition debris between 1965 and approximately 1984, when the site was observed to be covered by soil and vegetation. The site was used for the disposal of demolition debris from Buildings 424 and 425 in the early 1970s. The depth to which the debris was buried is unknown.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	SO: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, arsenic	Figures B-1 and B-26.	Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	No

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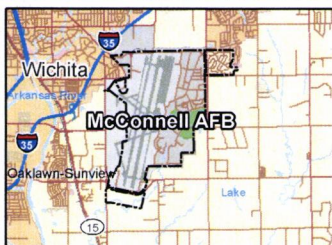
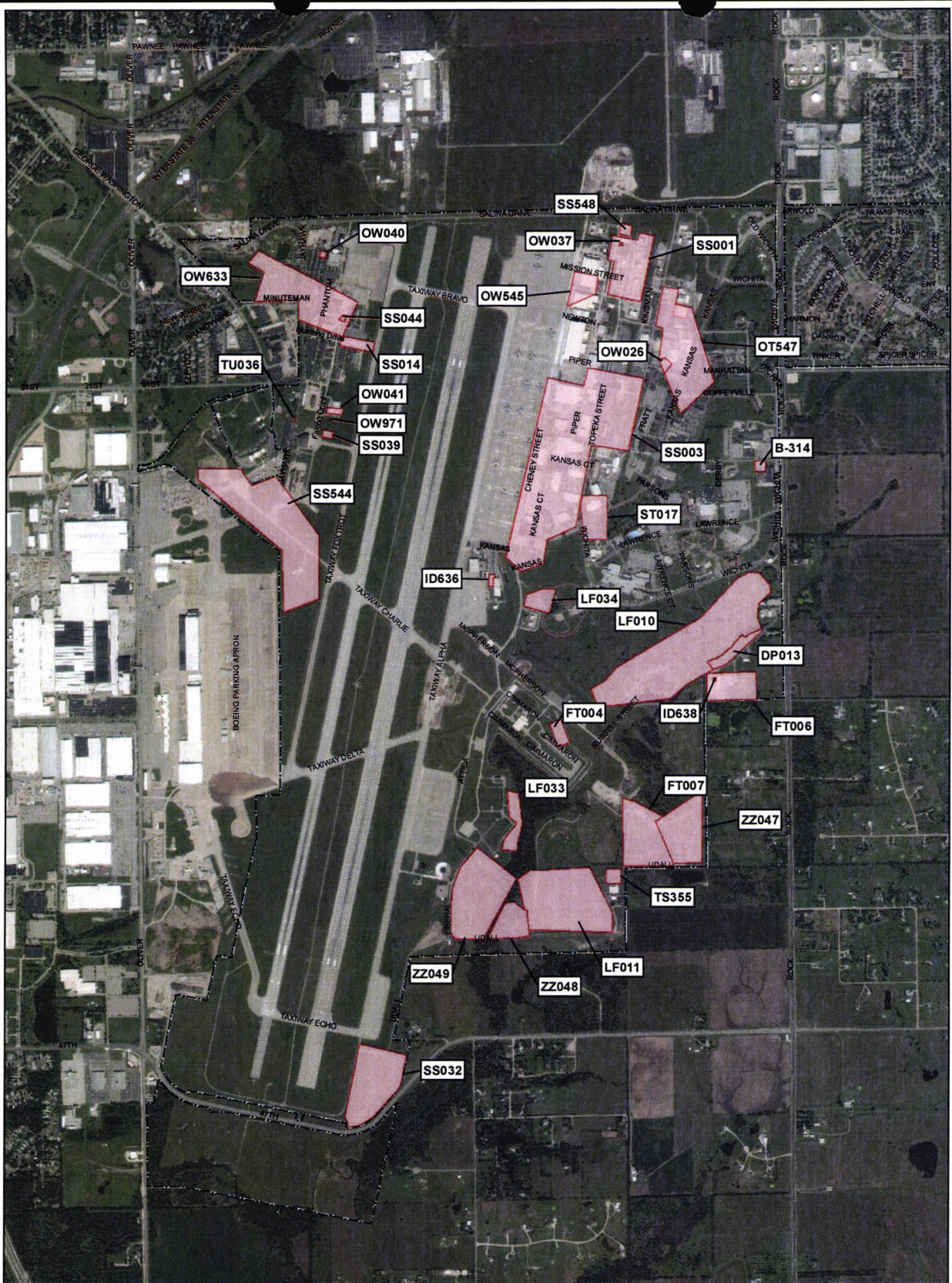
List of Sites with Institutional Controls

Site ID (and aliases)	Site Description	Site Contaminants	Site Location and Boundaries	Site Status	ICs Required by DD (Yes/No)
ZZ049 (Old Base Lake Hardfill Area; SWMU 108)	<p>ZZ049 (SWMU 108) is an approximately 16-acre hardfill that was permitted as a Kansas Construction and Debris landfill. The area was dredged between 1967 and 1968 to create a lake approximately 5 feet deep. The lake was drained between 1985 and 1987 and was subsequently used for the disposal of construction debris between 1987 and 1992. After a tornado destroyed several MAFB buildings in 1991, much of the construction debris generated by the reconstruction efforts was disposed of at this site. The entire site was then covered with soil and regraded in 1992.</p> <p>Access to the site is not restricted and site identification placards are present.</p>	Arsenic in 1-5 foot bgs sediment samples	Figures B-1 and B-27.	Proposed final remedy of existing vegetated soil cover and ICs pending regulatory review.	No

BTEX Benzene, Toluene, Ethylbenzene, and Xylene
 CMI Corrective Measures Investigation
 CMS Corrective Measures Study
 COC Contaminant of Concern
 DCA Dichloroethane
 DCE Dichloroethene
 DRMO Defense Reutilization Management Office
 FT Fire Training
 GW Groundwater Contamination
 ICs Institutional Controls
 ID Identification

KANG Kansas Air National Guard
 LF Landfill
 LTM Long-Term Monitoring
 MAFB McConnell Air Force Base
 MMRP Military Munitions Response Program
 MRH Mid-Range Hydrocarbons
 MTBE Methyl Tert Butyl Ether
 No. Number
 OWS(s) Oil-Water Separator(s)
 PAH(s) Polynuclear Aromatic Hydrocarbon(s)
 PCB polychlorinated biphenyl
 PCE Tetrachloroethene

POL Petroleum, Oil, Lubricant
 RCRA Resource Conservation and Recovery Act
 RFI RCRA Facility Investigation
 SO Soil Contamination
 SS Spill Site
 SVOC Semivolatile Organic Compound
 SWMU Solid Waste Management Unit
 TCE Trichloroethene
 TPH Total Petroleum Hydrocarbons
 UST Underground Storage Tank
 VOC(s) Volatile Organic Compound(s)



Legend

- Institutional Control Locations
- Installation Boundary

ICIP = Institutional Control Implementation Plan

Note:
Institutional control boundaries are subject to modification
as site conditions change over time.



Locations of Institutional Control Sites
Facility-Wide ICIP
McConnell Air Force Base,
Wichita, Kansas

Drawn By:	DPG	Date:	5/30/2017	Project No.:	60418270	Figure B-1
Checked By:	ATO	Revision:	0			

Draft Groundwater Monitoring Plan

Next Sites Ready for Remedy Proposal TM Discussion

REMEDY PROPOSAL SUMMARY
McCONNELL AFB, KANSAS

Site	Treatment Type	Injection Event	Injection Date	Injection Material	Area Influenced	Treatment Status	Remedy Proposal Status
FT007	ISCR	Pilot Study	7/9/14 - 7/10/14	ZVI	MW14R	- Minor concentrations of TCE remain and are declining - cDCE and VC remain in core	- Remedy proposal tech memo submitted
		Full Scale	10/2/14 - 11/20/14	ZVI	Whole Plume		
		Mitigation Injection 1	TBD	ZVI	MW7R, MW12R, MW13R, MW14R, MW18		
FT006	ISCR	Pilot Study	6/28/14 - 7/8/14	ZVI	MW17R	- Minor concentrations of TCE remain and are stable - cDCE remain in core	- Remedy proposal tech memo submitted
		Full Scale	11/6/14 - 12/13/14	ZVI	Whole Plume		
		Mitigation Injection 1	2/28/16 - 3/9/16	ZVI	MW9, MW14R, MW19R		
		Mitigation Injection 2	TBD	ZVI/organic substrate	MW7R, MW9, MW19R		
SS014	ISCR	Full Scale	12/5/14 - 12/20/14	ZVI	Whole Plume	- Minor concentrations of VC remain	- Remedy proposal tech memo submitted
ID636	ISCR	Full Scale	1/14/15 - 1/17/15	ZVI	Whole Plume	- TCE concentrations stable or declining	- Remedy proposal tech memo submitted
SS001	ISCR	Pilot Study	6/25/14 - 6/26/14	ZVI	MW43R	- TCE concentrations decreased, but stable - cDCE and VC remain in core	- Submittal of remedy proposal tech memo dependent on results of upcoming mitigation injection
		Full Scale	12/11/14 - 1/11/15	ZVI	Whole Plume		
		Mitigation Injection 1	3/2/16 - 3/14/16	ZVI	MW10R, MW11R		
		Mitigation Injection 2	TBD	ZVI	MW7R, MW10R, MW11R, MW23R, MW42R, MW44		
	ISCO	Full Scale	6/18/14 - 6/22/14	Sodium Persulfate	MW25R	- Minor concentrations of fuel (benzene) remain	
		Full Scale	10/9/14 - 10/31/14	Sodium Persulfate	Whole Plumes		
		Mitigation Injection 1	7/26/15 - 7/31/15	Sodium Persulfate	MW29R, MW30R		
			7/25/15 - 7/29/15	Sodium Persulfate	MW27R, MW44, MW45		
		Mitigation Injection 2	9/24/15 - 10/2/15	Sodium Persulfate	MW29R, MW30R		
		Mitigation Injection 3	9/23/16 - 10/1/16	Sodium Persulfate	MW29R, MW30R		
		Mitigation Injection 4	TBD	Calcium Peroxide	MW27R		
			TBD	Potassium Persulfate	MW30R		
LF034	ISCO	Pilot Study	7/12/14 - 7/14/14	Sodium Persulfate	MW23	- Minor concentrations of TPHs remain	- Submittal of remedy proposal tech memo dependent on results of upcoming mitigation injection
		Full Scale	11/9/14 - 11/24/14	Sodium Persulfate	Whole Plume		
		Mitigation Injection 1	7/31/15 - 8/7/15	Sodium Persulfate	Whole Plume		
		Mitigation Injection 2	4/18/16 - 4/29/16	Sodium Persulfate	Whole Plume		
		Mitigation Injection 3	TBD	Sodium Persulfate	Whole Plume		

**REMEDY PROPOSAL SUMMARY
McCONNELL AFB, KANSAS**

Site	Treatment Type	Injection Event	Injection Date	Injection Material	Area Influenced	Treatment Status	Remedy Proposal Status
OT547	ISCR	Full Scale (North)	10/4/15 - 11/22/15	ZVI	Whole Plume	- TCE concentrations decreasing or stable	
			3/17/16 - 3/21/16	ZVI	MW21R		
		Mitigation Injection 1 (North)	TBD	ZVI	MW26, MW27, MW32, MW33, MW37, MW39		
		Full Scale (South)	9/16/16 - 11/19/16	ZVI	Whole Plume		
			3/3/17 - 3/5/17	ZVI	Near OW026		
	ISCO	Full Scale	10/4/15 - 10/10/15	Sodium Persulfate	Whole Plume	- TPHs below KDHE RSKs	
OW633	ISCR	Full Scale	10/23/15 - 5/5/16	ZVI	Whole Plume	- TCE, cDCE, and VC concentrations remain in core	
	ISCO	Full Scale	1/8/16 - 2/22/16	Sodium Persulfate	Whole Plume	- TPHs below KDHE RSKs	
TU036	ISCO	Full Scale	10/28/15 - 11/6/15	Sodium Persulfate	Whole Plume	- Minor concentrations of TPHs remain	
		Mitigation Injection 1	9/17/16 - 9/21/16	Sodium Persulfate	MW9, MW10		
		Mitigation Injection 2	TBD	Sodium Persulfate	MW8, MW10		
SS044	ISCO	Full Scale	11/11/15 - 11/15/15	Sodium Persulfate	Whole Plume	- TPHs below KDHE RSKs	
			1/16/16 - 1/21/16				
ST017	ISCO	Full Scale	10/12/15 - 4/15/16	Sodium Persulfate	Whole Plume	- Fuels remain in core	
		Mitigation Injection 1	10/3/16 - 11/5/16	Sodium Persulfate	MW11R, MW17, MW18		
		Mitigation Injection 2	TBD	Potassium Persulfate	MW9R, MW11R, MW17, MW18		
OW026	ISCO	Full Scale	11/12/16 - 12/21/16	Sodium Persulfate	Whole Plume		
SS003	ISCR	Full Scale	11/19/16 - 3/14/17	ZVI	Source Area		
LF011	ISCR	Full Scale	11/30/16 - 2/5/17	ZVI	Source Area, Downgradient Wall		
OW041	ISCO	Full Scale	1/8/17 - 2/13/17	Sodium Persulfate	Whole Plume		

Acronyms and Abbreviations:

AFB = Air Force Base
cDCE = cis-1,2-dichloroethene
ISCO = *in situ* chemical oxidation
ISCR = *in situ* chemical reduction
KDHE = Kansas Department of Health and Environment
RSK = Risk-Based Standards for Kansas
TBD = to be determined
TCE = trichloroethene
TPH = total petroleum hydrocarbons
VC = vinyl chloride
ZVI = zero-valent iron

TPH Sites and Potential Priorities

**NEW TPH SITE ASSESSMENT
McCONNELL AFB, KANSAS**

Site	New TPHs Sampled	New TPHs Delineated to KDHE RSKs	Remediation Status	Extent of New TPHs versus Old TPHs	Proposed Path Forward	Priority
LF034	- New TPHs sampled for as part of IM PM and annual sampling events starting in August 2016 - 3 MWs sampled under IM PM - 11 additional MWs sampled annually	- New TPHs delineated to KDHE RSKs by monitoring wells sampled as part of annual sampling event	- Remediation implemented to treat TPH-GRO and TPH-DRO contamination - As of March 2017, TPH-DRO contamination remains	- As of March 2017, TPH-MRH contamination remains in a footprint larger than the remaining TPH-DRO contamination	- Expand remediation area to address TPH-MRH contamination	
OT547	- New TPHs sampled for as part of IM PM and annual sampling events starting in August 2016 - 8 MWs sampled under IM PM - 6 additional MWs sampled annually	- New TPHs delineated to KDHE RSKs by monitoring wells sampled as part of IM PM and annual sampling events	- Remediation implemented to treat TPH-DRO contamination - As of March 2017, no TPH-DRO contamination remains	- As of March 2017, TPH-MRH contamination remains in a footprint different than locaiton of previous, remediated TPH-DRO contamination		
OW633	- New TPHs sampled for as part of IM PM sampling event at one MW starting in August 2016	- No new TPHs detected above KDHE RSKs during sampling events	- Remediation implemented to treat TPH-DRO contamination - As of March 2017, no TPH-DRO contamination remains	- As of March 2017, no detections of New or Old TPHs above KDHE RSKs are present	- No change for time being	
TU036	- New TPHs samped for as part of IM PM and annual sampling events starting in August 2016 - 5 MWs sampled under IM PM - 5 additional MWs sampled annually	- New TPHs not delineated to KDHE RSKs to the north/northwest - Remaining sides delineated to KDHE RSKs by monitoring wells sampled as part of IM PM or annual sampling event	- Remediation implemented to treat TPH-GRO contamination - As of March 2017, TPH-GRO contamination remains	- As of March 2017, TPH-LRH contamination remains in same footprint as the remaining TPH-GRO contaminaiton - As of March 2017, TPH-MRH contaminaiton remains in a footprint larger than the remaining TPH-GRO contamination	- Finish delineation to the north/northwest - Expand remediation area to address TPH-LRH and TPH-MRH contamination	
ST017	- New TPHs samped for as part of IM PM and annual sampling events starting in August 2016 - 5 MWs sampled under IM PM - 3 additional MWs sampled annually	- New TPHs delineated to KDHE RSKs by monitoring wells sampled as part of IM PM or annual sampling event	- Remediation implemented to treat TPH-GRO and TPH-DRO contamination - As of March 2017, TPH-GRO contamination remains	- As of March 2017, TPH-LRH and TPH-MRH contaminaiton remains in same footprint as remaining TPH-GRO contamination	- Expand remediation area to address TPH-LRH and TPH-MRH contamination	
SS044	- New TPHs samped for as part of IM PM and annual sampling events starting in August 2016 - 4 MWs sampled under IM PM and annual sampling events	- No detections above KDHE RSKs to date	- Remediation implemented to treat TPH-GRO and TPH-DRO contamination - As of March 2017, no TPH-GRO or TPH-DRO contamination remains	- As of March 2017, no detections of New or Old TPHs above KDHE RSKs are present	- No change for time being	
OW026	- New TPHs sampled for as part of RFI - New TPHs continued to be sampled for as part of IM PM and annual sampling events	- New TPHs not delineated to north or southeast - Remaining sides delineated to KDHE RSKs by monitoring wells	- Remediation implemented to treat TPH-GRO and TPH-LRH contamination - As of March 2017, TPH-MRH contamination remains	- Extent of TPHs similar between old and new		
OW041	- New TPHs sampled for as part of RFI - New TPHs continued to be sampled for as part of IM PM and annual sampling events	- New TPHs not delineated to KDHE RSKs to west/southwest - Remaining sides delineated to KDHE RSKs by monitoring wells	- Remediation implemented to treat TPH-DRO, TPH-MRH, and TPH-HRH contamination - As of March 2017, TPH-MRH contamination remains	- Extent of TPHs similar between old and new		
OW040	- New TPHs sampled for as part of second round of monitoring well sampling during RFI	- New TPHs not delineated to north/northwest - Remaining sides delineated to KDHE RSKs by monitoring wells	- No remediation completed	- No Old TPHs detected above KDHE RSKs during RFI - TPH-HRH detected above KDHE RSKs during RFI		
OW625	- New TPHs sampled for as part of second round of monitoring well sampling during RFI	- No new TPHs detected above KDHE RSKs	- No remediation completed	- No contamination plume present		

**NEW TPH SITE ASSESSMENT
McCONNELL AFB, KANSAS**

OW634	- New TPHs sampled for as part of second round of monitoring well sampling during RFI	- No new TPHs detected above KDHE RSKs	- No remediation completed	- No contamination plume present		
OW970	- New TPHs sampled for as part of second round of monitoring well sampling during RFI	- No new TPHs detected above KDHE RSKs	- No remediation completed	- No contamination plume present		
SS548	- New TPHs sampled for as part of round of monitoring well sampling during additional investigation	- New TPHs detected above KDHE RSKs in one monitoring well	- No remediation completed	- TPH-MRH detected above KDHE RSK in same footprint as TPH-DRO contamination		
OW545	- New TPHs sampled for as part of downgradient direct push boring sampling - New TPHs sampled for as part of sampling round for reinstalled and newly installed monitoring wells	- New TPHs delineated to KDHE RSKs by two direct push borings on downgradient side and monitoring wells	- No remediation completed	- TPHs detected above KDHE RSKs in two areas with elevated concentrations of TPH-DRO that do not exceed KDHE RSKs		
SS004 (SWMU 201)	- New TPHs sampled for soil and groundwater during RFI along with DRO/GRO	- New TPHs delineated to KDHE RSKs and EPA RSLs by four direct push borings	- No remediation completed to date	- TPH-MRH detected above KDHE RSK and EPA RSL in soil that was not above DRO/GRO values.	Hot spot excavation may be necessary	
ID638	- New TPH added for groundwater sampling (soil not analyzed for new TPH) during RFI	- TPH delineated to KDHE RSKs but not to EPA RSLs	- No remediation completed to date	- TPH-MRH detected above KDHE RSK and EPA RSL in groundwater that was not above DRO/GRO values	Delineation and corrective action may be necessary	
TU601	- New TPH sampled for in groundwater at a new monitoring well after RFI was completed	- New TPH not delineated	- No remediation completed to date	- TPH-MRH detected above KDHE RSK and EPA RSL in groundwater that was not above DRO/GRO values	Delineation and corrective action may be necessary	
OW971	- New TPH sampled in groundwater at a monitoring well during Site Characterization	- New TPH detected below RSKs/RSLs. - No delineation necessary	- No remediation completed to date	- New TPH detected below RSKs/RSLs.	Site closure	
OW037	- New TPH added for groundwater sampling (soil not analyzed for new TPH) during RFI	- New TPH not delineated	- No remediation completed to date	- TPH-MRH detected above KDHE RSK and EPA RSL in groundwater that was not above DRO/GRO values	Delineation and corrective action may be necessary	
FL628	- New TPH added for soil and groundwater sampling at monitoring wells (not at direct push borings) during RFI	- New TPH detected below RSKs/RSLs. - No delineation necessary	- No remediation completed to date	- TPH-GRO detected in soil during a previous investigation above KDHE RSK. - May need to go back to sample and analyze for new TPH for comparison	- May need to go back to site and sample/analyze for New TPH for comparison to GRO	
SS039	- New and old TPH will be analyzed when RFI is conducted	- RFI not yet conducted	- No remediation completed to date	- TPH-GRO/DRO detected in soil and groundwater during RFA above KDHE RSKs. - Will need to go back to sample and analyze for new TPH for comparison during RFI	Conduct RFI and analyze for new TPH	
ST024	- New and old TPH will be analyzed when RFI is conducted	- RFI not yet conducted	- No remediation completed to date	- Unknown at this time	- Unknown at this time	
OW045	- New and old TPH will be analyzed when RFI is conducted	- RFI not yet conducted	- No remediation completed to date	- Unknown at this time	- Unknown at this time	
TU046	- New and old TPH will be analyzed when RFI is conducted	- RFI not yet conducted	- No remediation completed to date	- Unknown at this time	- Unknown at this time	
OW579	- New and old TPH will be analyzed when RFI is conducted	- RFI not yet conducted	- No remediation completed to date	- Unknown at this time	- Unknown at this time	

Paths Forward:
Complete Delineation
Expand Remediation
Change Performance Objective

Construction Completion Report Discussion

Corrective Measures Implementation Work Plan Outline

- Section 1 Introduction
 - 1.1 Authority
 - 1.2 Purpose and Scope
 - 1.3 Site Location and Description
- Section 2 Corrective Measure Description
 - 2.1 Corrective Action Objectives
 - 2.2 Corrective Measure Description
- Section 3 Corrective Measure Activities
 - 3.1 Performance Monitoring
 - 3.2 Annual Monitoring
 - 3.3 Monitoring Well Maintenance
 - 3.4 Mitigation Injections
 - 3.5 Institutional Controls
 - 3.6 Reporting
- Section 4 Corrective Measure Completion
- Section 5 References

OW625

RFI Report Comments

To: Wight, Brian; Baumann, Rod
Subject: RE: Final OW625 Report

From: Crysler, Ruby [<mailto:Crysler.Ruby@epa.gov>]

Sent: Thursday, June 01, 2017 9:34 AM

To: Wight, Brian; KNIGHT, COLE D GS-11 USAF AMC 22 CES/CEAN (cole.knight@us.af.mil); Jacqueline Grunau; Mark D. Wichman (mark.d.wichman@usace.army.mil)

Cc: Jacobs, Ann

Subject: Final OW625 Report

Brian,

I'm trying to resolve issues on the Final OW625 RFI report. URS' response to comments state the following:

Section 6.4.2	Page 6-7		The text states that only groundwater data collected within the last year was included in the data set to calculate the exposure point concentrations in groundwater. A valid explanation should be provided for why historical data was not included in the data set and evaluated.	A, E	The first sentence of Section 6.4.2 on page 6-7 will be revised to read, "Unlike soil, groundwater is a dynamic medium and concentrations can fluctuate, even over short periods of time. Historical groundwater water data was collected in 2011 from direct push borings. Direct push data is not readily reproducible and is generally considered less reliable than monitoring well data because the temporary wells are not fully developed and the samples tend to be more turbid than monitoring wells data. Additionally, monitoring well data allows the changes in groundwater concentrations to be followed over time. Using the most recent data provides the most current information for groundwater at the site."
Section 6.5.13	Page 6-13		The paragraph states that the relative bioavailability factor of 0.6 was used to evaluate site risks associated with arsenic. The RSL for arsenic, as presented in the RSL tables, already takes into account the 0.6 bioavailability factor; therefore, any site-measured arsenic values should not be modified by 0.6 and then compared to the RSL. Rather, the measured site concentrations should be compared to the RSL directly with no modifications to the original data. In addition, it should be noted that the RBA does not apply to the dermal exposures to arsenic in soil which the absorbed dose is calculated using a dermal absorption factor of 0.03.	A, E	Arsenic site data was not modified before it was compared to the RSL. The comparison to RSLs to determine COPCs was completed in Section 6.2.3. The text in Section 6.5.13 is discussing the exposure parameters and procedures used to estimate site risks in the spreadsheet provided in Appendix G. The first sentence of Section 6.5.13 on page 6-13 will be revised to read, "The arsenic relative bioavailability factor of 0.6 was used to estimate soil ingestion risks associated with arsenic."

For **Section 6.4.2**, data are not normally excluded unless they fail QA/QC criteria. So DP data should not be overlooked or disregarded just because monitoring well data is available. The two types of data are evaluated jointly to provide a better indication of site conditions. So the response provided is not entirely accurate. For this site, I think you are trying to convey that the more recent data demonstrate that TPH is no longer present at the site at the concentrations previously reported. The report should be revised to state this. I would also state that MW-01 was installed at the same location as the former detection, and TPH was not detected in this well during more recent sampling.

For **Section 6.5.13**, the EPA has commented several times on this issue. The arsenic screening levels in the RSL tables have already been developed considering a bioavailability factor, so no further transformation of the data is needed to account for this. It is unclear exactly how the bioavailability factor was applied at this site- further clarification is needed. As a note, there is now capability to determine site specific bioavailability for arsenic if McConnell is interested in doing so.

Please send revised pages to address these issues so that the report can be approved. Thanks.

Ruby Crysler
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